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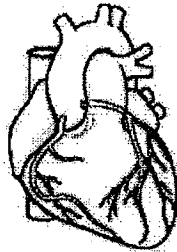
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Cardiology

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USA
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UNITED STATES OF AMERICA

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FOOD AND DRUG ADMINISTRATION

+ + + + +

CIRCULATORY SYSTEM DEVICES ADVISORY PANEL

+ + + + +

MEETING

+ + + + +

THURSDAY,
NOVEMBER 29, 2007

+ + + + +

The meeting convened at 8:00 a.m.
at the Gaithersburg Holiday Inn, 2 Montgomery
Village Avenue, Gaithersburg, Maryland, CLYDE
W. YANCY, M.D., Acting Panel Chairperson,
presiding.

PANEL MEMBERS PRESENT:

CLYDE YANCY, M.D., Acting Chairperson
RICHARD L. PAGE, M.D., Voting Member
JOHN C. SOMBERG, M.D., Voting Member
EUGENE H. BLACKSTONE, M.D., Consultant
JEFFREY A. BRINKER, M.D., Consultant
JOHN W. HIRSHFELD, M.D., Consultant
VALLUVAN JEEVANANDAM, M.D., Consultant
NORMAN S. KATO, M.D., Consultant
WARREN K. LASKEY, M.D., Consultant
DOUGLAS MORRISON, M.D., Consultant
SHARON-LISE NORMAND, Ph.D., Consultant
MARCIA S. YAROSS, Ph.D., Industry
Representative
KAREN R. RUE, Consumer Representative

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FDA PARTICIPANTS:

JAMES P. SWINK, Panel Executive Secretary
BRAM ZUCKERMAN, M.D., Director, Division of
Cardiovascular Devices
HEATHER L. AGLER, Ph.D., Division of
Cardiovascular Devices
ASHLEY BOAM, Branch Chief, Interventional
Cardiology Devices, Office of Device
Evaluation
DANICA MARINAC-DABIC, M.D., Ph.D., Chief,
Epidemiology Branch, Office of Surveillance
and Biometrics
HESHA DUGGIRALA, Ph.D., Office of Surveillance
and Biometrics
ROBERT P. FIORENTINO, M.D., M.P.H., Division
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XU YAN, Ph.D., Office of Surveillance and
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Affairs, Clinical Research, and Quality
Assurance, Abbott Vascular
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Statistics, London School of Hygiene and
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1 P-R-O-C-E-E-D-I-N-G-S

2 (8:02 a.m.)

3 CALL TO ORDER

4 CHAIRPERSON YANCY: Good morning.

5 My name is Clyde Yancy. I am Medical Director
6 of the Baylor Heart and Vascular Institute at
7 Baylor University Medical Center in Dallas and
8 Chairperson of today's panel deliberations. I
9 would like to call this meeting of the
10 Circulatory System Devices Panel to order.

11 If you haven't already done so,
12 please sign the attendance sheets that are on
13 the tables by the doors. If you wish to
14 address this panel during one of the open
15 sessions, please provide your name to Ms. Anne
16 Marie Williams at the registration table. If
17 you are presenting in any of the open public
18 sessions today and have not previously
19 provided an electronic copy of your
20 presentation to FDA, please arrange to do so
21 with Ms. Williams.

22 I note for the record that the

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1 voting members present constitute a quorum, as
2 required by 21 CFR Part 14. I would also like
3 to add that the panel participating in the
4 meeting today has received training in FDA
5 device law and regulations. If you have
6 electronic pagers, PDAs, or cell phones,
7 please place them on a silent mode so that
8 they will be minimally intrusive.

9 Mr. Swink, the Executive Secretary
10 for the Circulatory System Devices Panel, will
11 make some introductory remarks.

12 CONFLICT OF INTEREST AND DEPUTIZATION TO
13 VOTING MEMBER STATUS STATEMENTS

14 EXECUTIVE SECRETARY SWINK: I'll
15 now read the conflict of interest statement.
16 "The Food and Drug Administration is convening
17 today's meeting of the Circulatory System
18 Devices Panel of the Medical Devices Advisory
19 Committee under the authority of the Federal
20 Advisory Committee Act of 1972.

21 "With the exception of the industry
22 representative, all members and consultants of

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1 the panel are special government employees or
2 regular federal employees from other agencies
3 and are subject to federal conflict of
4 interest laws and regulations.

5 "The following information on the
6 status of this panel's compliance with federal
7 ethics and conflict of interest laws covered
8 by, but not limited to, those found at 18 USC,
9 section 208, and section 712 of the Federal
10 Food, Drug, and Cosmetic Act are being
11 provided to today's participants and to the
12 public.

13 "FDA has determined that members
14 and consultants of this panel are in
15 compliance with federal ethics and conflict of
16 interest laws. Under 18 USC, section 208,
17 Congress has authorized FDA to grant waivers
18 to special government employees who have
19 potential financial conflicts when it is
20 determined that the agency's need for that
21 particular individual's services outweighs his
22 or her potential financial conflict of

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1 interest.

2 "Under section 712 of the FD&C Act,
3 Congress has authorized FDA to grant waivers
4 to special government employees and regular
5 government employees with potential financial
6 conflicts when necessary to afford the
7 committee essential expertise.

8 "Related to the discussion of
9 today's meetings, members and consultants of
10 this panel who are special government
11 employees have been screened for potential
12 financial conflicts of interest of their own
13 as well as those imputed to them, including
14 those of their spouses or minor children and
15 for purposes of 18 USC, section 208, their
16 employers. These interests may include
17 investments, consulting, expert witness
18 testimony, contracts, grants, CRADAs,
19 teaching, speaking, writing, patents, and
20 royalties, and primary employment.

21 "Today's agenda involves the
22 discussion of a pre-market approval

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1 application for the XIENCE V
2 Everolimus-Eluting Coronary Stent System
3 sponsored by Abbott Vascular, a subsidiary of
4 Abbott Laboratories.

5 "The system is indicated for
6 improving coronary lumenal diameter in
7 patients with symptomatic heart disease due to
8 de novo native coronary artery lesions with a
9 length of equal to 28 millimeters with
10 reference vessel diameter of 2.5 to 4.25
11 millimeters.

12 "This is a particular matters
13 meeting, during which specific matters related
14 to the PMA will be discussed. Based on the
15 agenda for today's meeting and all financial
16 interest reported by the panel members and
17 consultants, conflict of interest waivers have
18 been issued in accordance with 18 USC, section
19 208(b)(3) to Drs. Jeffrey Brinker, John
20 Somberg, and Clyde Yancy. A waiver has also
21 been issued in accordance with section 712 of
22 the FD&C Act for Dr. Yancy.

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1 "Dr. Brinker's waiver involves his
2 employer's interest in a sponsor study. His
3 institute received less than \$100,000 in
4 funding. Dr. Brinker has no personal
5 involvement in the study.

6 "Dr. Somberg's waiver entails his
7 employer's interest in the sponsor's study.
8 His institute received less than \$100,000 in
9 funding. Dr. Somberg has no personal
10 involvement in the study.

11 "Dr. Yancy's waivers address
12 personal consulting arrangements with a
13 competing firm to the sponsor and an
14 unaffected unit of the parent or of the
15 competing firms. He receives an annual fee of
16 less than \$10,001 for these arrangements,
17 which are unrelated to today's agenda.

18 "The waivers allow these
19 individuals to participate fully in today's
20 deliberations. FDA's reasons for issuing the
21 waivers are described in waiver documents,
22 which are posted on FDA's Web site at

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1 www.fda.gov.

2 "Copies of the waivers may also be
3 obtained by submitting a written request to
4 the agency's Freedom of Information Office,
5 which is in room 6-30 of the Parklawn
6 Building.

7 "A copy of this statement will be
8 available for review at the registration table
9 during this meeting and will be included as a
10 part of the official transcript.

11 "Marcia S. Yaross, Ph.D., is
12 serving as the industry representative, acting
13 on behalf of all related industry, and
14 employed by Biosense Webster, Incorporated, a
15 Johnson and Johnson company.

16 "We would like to remind members
17 and consultants that if the discussions
18 involve any other products or firms not
19 already on the agenda for which the FDA
20 participant has a personal or imputed
21 financial interest, the participants need to
22 exclude themselves from such involvement. And

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1 their exclusion will be noted for the record.

2 "FDA encourages all other
3 participants to advise the panel of any
4 financial relationships that they may have
5 with any firms at issue." Thank you.

6 I will now read the employment to
7 temporary voting status. "Pursuant to the
8 authority granted under the Medical Devices
9 Advisory Committee charter of the Center for
10 Devices and Radiological Health dated October
11 27th, 1990 and as amended August 18th, 2006, I
12 appoint the following individuals as voting
13 members of the Circulatory System Devices
14 Panel for the duration of this meeting on
15 November 29, 2007: John W. Hirshfeld,
16 Valluvan Jeevanandam, Norman S. Kato, Warren
17 K. Laskey, Douglas A. Morrison, Sharon-Lise
18 Normand, Jeffrey A. Brinker, and Eugene H.
19 Blackstone.

20 "For the record, these individuals
21 are special government employees and/or
22 consultants to the panel under the Medical

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1 Devices Advisory Committee. They have
2 undergone the customary conflict of interest
3 review and have reviewed the material to be
4 considered at this meeting. In addition, I
5 appoint Clyde W. Yancy, M.D., to act as
6 temporary chairperson for the duration of this
7 meeting."

8 This was signed by Daniel G.
9 Schultz, Director for the Center for Devices
10 and Radiological Health, and dated November
11 16th, 2007.

12 A few more general announcements.
13 Transcripts of today's meeting will be
14 available from Neal Gross and Company.
15 Information on purchasing these videos of
16 today's meeting can be found on a table
17 outside of the meeting room.

18 Presenters to the panel who have
19 not already done so should provide FDA with a
20 hard copy of their remarks, including
21 overheads. I would like to remind everyone
22 that members of the public and the press are

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1 not permitted around the panel area beyond the
2 speakers' podium and are not permitted to talk
3 with the consultants.

4 The press contact for today's
5 meetings are Karen Riley and Peper Long. And
6 I request that reporters wait to speak with
7 FDA officials until after the panel meeting.

8 Thank you.

9 CHAIRPERSON YANCY: Good morning
10 again. At this meeting, the panel will be
11 making a recommendation to the Food and Drug
12 Administration on the pre-market approval
13 application, PMA, P070015 for the Abbott
14 Vascular XIENCE V Everolimus-Eluting Coronary
15 Stent System.

16 The XIENCE Coronary Stent System is
17 indicated for improving coronary luminal
18 diameter in patients with symptomatic heart
19 disease due to de novo native coronary artery
20 lesions less than or equal to 28 millimeters
21 with reference vessel diameter of 2.5 to 4.25
22 millimeters.

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1 PANEL INTRODUCTIONS

2 CHAIRPERSON YANCY: Before we begin
3 deliberations on this PMA under the auspices
4 of that proposed indication that we just read,
5 I would like to ask our panel members, who
6 have generously given their time today, and
7 other FDA staff seated at this table to
8 introduce themselves.

9 We will start with Dr. Zuckerman.
10 Please state your name, your area of
11 expertise, your position, and affiliation.
12 Thank you.

13 DR. ZUCKERMAN: Good morning. Bram
14 Zuckerman, Director, FDA Division of
15 Cardiovascular Devices.

16 MEMBER BRINKER: Hi. Jeff Brinker,
17 interventional Cardiologist, professor of
18 medicine and radiology, Johns Hopkins
19 University.

20 MEMBER HIRSHFELD: I'm John
21 Hirshfeld. I'm an interventional cardiologist
22 at the University of Pennsylvania.

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1 MEMBER KATO: Norman Kato,
2 cardiothoracic surgery, private practice, Los
3 Angeles, California.

4 MEMBER NORMAND: Hi. Sharon-Lise
5 Normand, professor of health care policy and
6 biostatistics, Harvard Medical School and
7 Harvard School of Public Health.

8 MEMBER SOMBERG: Hi. John Somberg,
9 professor of medicine and pharmacology, Rush
10 University, Chicago, Illinois.

11 EXECUTIVE SECRETARY SWINK: James
12 Swink, Executive Secretary.

13 MEMBER LASKEY: Warren Laskey. I'm
14 Chief of Cardiology at the University of New
15 Mexico.

16 MEMBER PAGE: Rick Page,
17 cardiologist, electrophysiologist. I'm head
18 of cardiology at the University of Washington
19 in Seattle.

20 MEMBER BLACKSTONE: Eugene
21 Blackstone, full-time clinical research, head
22 clinical research, Department of Thoracic

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1 Cardiovascular Surgery at Cleveland Clinic.

2 MEMBER JEEVANANDAM: Valluvan
3 Jeevanandam. I'm the Chief of Cardiothoracic
4 Surgery at the University of Chicago.

5 MEMBER MORRISON: Good morning.
6 I'm Doug Morrison. I'm an interventional
7 cardiologist in private practice.

8 MEMBER YAROSS: Marcia Yaross, Vice
9 President, Clinical Quality, Regulatory, and
10 Health Policy at Biosense Webster in Diamond
11 Bar, California and industry representative to
12 this panel.

13 MEMBER RUE: Karen Rue with
14 Griswold Special Care. I'm from Lafayette,
15 Louisiana. And I'm consumer representative.

16 CHAIRPERSON YANCY: Thank you.

17 We will now proceed with a brief
18 post-approval studies update from the FDA.

19 POST-APPROVAL STUDIES UPDATE

20 DR. MARINAC-DABIC: Good morning,
21 ladies and gentlemen, Mr. Chairman, Dr.
22 Zuckerman, distinguished members of the panel.

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1 My name is Danica Marinac-Dabic. I am the
2 Chief of Epidemiology Branch at the Office of
3 Surveillance and Biometrics. And this is the
4 unit that is in charge of the review and
5 oversight of the post-approval studies
6 program.

7 During the past couple of years,
8 the CDRH has made significant commitment of
9 resources to enhance the post-approval studies
10 program, with the major goals to enhance
11 scientific vigor of post-approval studies,
12 establish and maintain accountability for the
13 post-approval study commitments, build
14 post-approval study information management
15 system, build bridges between the
16 post-approval studies knowledge, and
17 pre-market device evaluation, and also to
18 increase the transparency with the public.

19 Today I would like to give you, our
20 expert advisory panel, an update on the most
21 recent developments in the CDRH post-approval
22 studies program followed by a brief overview

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1 of the current status of the ongoing
2 cardiovascular post-approval studies.

3 The new CDRH post-approval studies
4 program encompasses design, tracking,
5 oversight, and review responsibilities for the
6 studies mandated as a condition of approval.
7 The program helps ensure that well-designed
8 post-approval studies are conducted
9 effectively, efficiently, and in the least
10 burdensome manner.

11 During the last several years, CDRH
12 fundamentally changed the processes by which
13 we handle post-approval studies. The main
14 changes had occurred in the oversight,
15 tracking, and review of post-approval studies.

16 We also issued the guidance
17 document to the FDA staff and the sponsors of
18 medical devices. We also developed and
19 released the post-approval studies Web page
20 and initiated post-market updates to the
21 panel. And, finally, we developed a
22 comprehensive approach to engage other public

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1 health partners in this post-approval studies
2 program.

3 In 2005, the oversight
4 responsibility was transferred from the Office
5 of Device Evaluation and Office of In Vitro
6 Diagnostics that historically handled the
7 post-approval studies to the Office of
8 Surveillance and Biometrics. And all the
9 post-approval studies review functions were
10 integrated into the medical device
11 epidemiology and surveillance program within
12 the OSB.

13 We developed an electronic tracking
14 system for post-approval study commitments.
15 This system represents CDRH commitment and
16 determination to ensure that all post-market
17 commitments are fulfilled.

18 This system is based on the
19 post-approval study time lines incorporated
20 into study protocols and agreed upon by the
21 sponsor at the time of the approval. So all
22 the reporting requirements can convey to the

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1 sponsor -- and this is based on those
2 deadlines -- the due date and the tracking
3 systems are built.

4 Over the last two years, the
5 epidemiology staff had been gradually
6 integrated into PMA review teams. To advance
7 the least burdensome approach, the
8 epidemiology staff has committed significant
9 resources towards early dialogue with
10 manufacturers to give early input regarding
11 our expectations on post-approval studies and
12 also to help the sponsors by working
13 interactively with them to develop
14 well-designed post-approval studies during the
15 pre-market phase.

16 Our goal is to finalize by the time
17 of the approval at least an outline of the
18 post-approval study protocol. And very often
19 we finalize the full study protocol at the
20 time of the device approval. We also agree at
21 that time on the study time lines. And, as I
22 said, those study time lines are built into

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1 the tracking system.

2 If the advisory panel is convened
3 for that device, then the epidemiologists are
4 part of the FDA presentation team. So we will
5 hear a little bit about the post-approval
6 studies and our assessment and what
7 post-market considerations for post-approval
8 study are. These are the pre-market changes
9 that had occurred during the last couple of
10 years.

11 As far as the post-market review
12 practice and upon the device approval, the
13 epidemiologist assumed the lead responsibility
14 in the review of the interim and final
15 reports, again the function that was
16 historically residing in the Office of Device
17 Evaluation. However, we keep the PMA review
18 team informed and engaged. And although we
19 serve as the lead reviewers on those
20 submissions, we make sure that the information
21 is being fed back to the pre-market.

22 The concept of epidemiology lead

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1 and the post-market team availability is
2 envisioned to couple the epidemiologic
3 expertise in observational studies of the
4 Office of Surveillance and Biometrics with the
5 product-specific technical expertise from
6 pre-market and post-market experts to
7 facilitate knowledge sharing within the CDRH.

8 As I had mentioned, the CDRH had
9 issued post-approval studies guidance
10 documents late last year. And we did one
11 minor revision in August of this year.

12 In addition to our internal
13 tracking system, the CDRH had also launched
14 the publicly available Web site with general
15 information on all post-approval studies that
16 were initiated post-2005, when the OSB
17 received a lead in oversight responsibilities.

18 And this link on the slide is a link to that.

19 I hope that some of you may already have seen
20 the information that we proudly present to the
21 public.

22 I am not going to go into a lot of

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1 detail about this study, the definitions, but
2 just to illustrate that we have clear
3 objective criteria by which we evaluate the
4 reporting status of post-market commitments.

5 And these are our reporting status
6 definitions that are available on the Web site
7 and also in our guidance document. These are
8 also the study status definitions that range
9 from protocol-pending to protocol-overdue,
10 study-pending, study-on-time, overdue,
11 terminated, or completed.

12 We generally give the sponsor six
13 months to finalize the protocol unless the
14 protocol is approved at the time of the
15 approval, after which we will mark the
16 protocol overdue on the Web site.

17 We certainly view this -- and this
18 is how it looks like. These are some of the
19 elements that are available on the Web. And,
20 as you can see, there is the information about
21 the PMA number, applicant's name, device name.

22 We recently added the category of

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1 the medical specialty and also the date the
2 PMA approval is there. We extract directly
3 from the approval order the brief description
4 of the post-approval study protocol. And also
5 we make sure that the public knows when the
6 protocol was approved.

7 And then the final category is
8 defined as a study status where we mark how
9 well the sponsor has complied with the
10 reporting requirements and how well the study
11 is progressing.

12 We certainly view this as an
13 opportunity, not only for this Web site to
14 serve as an incentive for the sponsors to
15 comply with their post-market study
16 commitments but also our opportunity to
17 celebrate and to advertise the best practices
18 of the sponsors in their reporting
19 requirements and the progress of the
20 post-approval studies.

21 And, again, this is another
22 important initiative that we started earlier

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1 this year. We instituted two types of panel
2 updates. One is going to be the general
3 post-approval studies update that we just
4 started presenting today.

5 This is the very first session that
6 we are presenting this, but we also have the
7 specific post-approval studies update that we
8 started in January when we invited the sponsor
9 of a specific medical device and had the
10 opportunity to present to the panel the
11 progress of their post-approval study followed
12 by the update presentation. And we have some
13 discussion time for the panel. Again, we
14 started with this in January this year. And
15 we have another panel update on a specific
16 ob/gyn device later this year.

17 And, as I said, the post-approval
18 studies program can be only successful if
19 there is effective partnership between the
20 FDA, industry, and other stakeholders. And
21 toward that effect, we convened the first
22 workshop on the post-approval studies. It was

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1 co-sponsored by the FDA and Food and Drug Law
2 Institute earlier this year, in May.

3 And we will continue dialogue with
4 all of the stakeholders because we believe
5 that without their support, the program will
6 not be able to transform as quickly as we
7 would like it to be.

8 Now, let's just examine quickly
9 what happened with regard to the
10 cardiovascular studies since 2005. Since
11 2005, there was a total of 21 cardiovascular
12 PMAs and supplements approved with
13 post-approval studies. Since some of the PMAs
14 had more than one post-approval study
15 commitment, there is a total of 27
16 post-approval studies initiated post-2005.

17 I would like also to say that, in
18 addition to these studies, we also received 36
19 other pre-2005 studies that we just assumed
20 the responsibility for in April this year. So
21 we do not have all of the updates on all of
22 them, but I hope that by next year in my

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1 presentation, next presentations, I might be
2 able to share some information about those
3 studies as well.

4 These are just the cardiovascular
5 devices post-approval studies, just a quick
6 overview slide. Again, you can see that as
7 far as the distribution of the study designs,
8 most of the studies are observational. And
9 this doesn't come as a surprise since the
10 post-approval study is a distinctive
11 post-market tool to be used to study continued
12 safety and effectiveness of approved medical
13 devices when used in a broader population
14 under longer-term use outside of the highly
15 controlled settings of pre-market clinical
16 trials.

17 And, again, I'm very proud to
18 present this slide that shows that all of our
19 studies and all of our sponsors are compliant
20 with regard to the reporting status. You can
21 see that five studies already for which we
22 received the final report. There are 18

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1 studies for which we received the report on
2 time. And for the remaining four studies, a
3 report was received after the due date, but we
4 have it in house. And we mark it "Overdue.
5 Received" on our Web site.

6 As far as the progress of the
7 studies, again, the vast majority of the
8 studies are on time. We have some studies
9 that are completed, as you can see. And also
10 there are protocol-pending studies, mostly
11 those that were approved in 2007, for which we
12 did not finalize the post-approval study
13 protocol yet. And there are also some
14 study-pending, which means that protocol was
15 approved but the study had not been initiated
16 yet.

17 As far as how we present to the
18 panel, really, this slide clearly shows that
19 since 2005, there has been an increased number
20 of post-approval studies presentations to the
21 panel. I'm talking here about pre-market
22 panel presentations that range from one out of

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